

Tectonic Plates and Microfoundations

In 1915, Alfred Wegener argued that all the continents of Earth once used to fit together as one giant supercontinent, which he later named Pangea. [As Wikipedia summarizes](#):

In his work, Wegener presented a large amount of circumstantial evidence in support of continental drift, but he was unable to come up with a convincing mechanism. Thus, while his ideas attracted a few early supporters ... the hypothesis was generally met with skepticism. The one American edition of Wegener's work ... was received so poorly that the American Association of Petroleum Geologists organized a symposium specifically in opposition.... By the 1930s, Wegener's geological work was almost universally dismissed by the scientific community and remained obscure for some thirty years.

Today, of course, every schoolchild knows about Pangea. But for a long time the theory was dismissed, not because it lacked evidence or predictive power — it explained why the shapes of the continents fit together, why mountain ranges and coal fields lined up, why similar fossil were found in places separated by oceans, and so on — but because Wegener had no plausible mechanism.

A similar problem happens in the social sciences. [Paul Krugman recently noted](#) that while Larry Bartels (in his new book [Unequal Democracy](#)) provides solid, convincing evidence that Republican presidents systematically preside over slower growth and increasing inequality, most social scientists don't believe him because we haven't yet identified the mechanisms. Krugman:

Now, I'm a big Bartels fan; I've known about this result for quite a while. But I've never written it up. Why? Because I can't figure out a plausible mechanism. Even though I believe that politics has a big effect on income distribution, this is just too strong — and too immediate — for me to see how it can be done. Sure, Republicans want an oligarchic society — but how can they do that?

Bartels, for his part, [argues that](#) providing the mechanisms isn't his job — his goal is to highlight the phenomena and encourage many others to research the mechanisms:

How do presidents produce these substantial effects?

One of my aims in writing *Unequal Democracy* was to prod economists and policy analysts to devote more attention to precisely that question. Douglas Hibbs did important work along these lines ... He found that Democrats favored expansionary policies ... while Republicans endured and sometimes prolonged recessions in order to keep inflation in check. (Not coincidentally, unemployment mostly affects income growth among relatively poor people, while inflation mostly affects income growth among relatively affluent people.) In recent decades taxes and transfers have probably been more important. Social spending. Business regulation or lack thereof. And don't forget the minimum wage. Over the past 60 years, the real value of the minimum wage has increased by 16 cents per year under Democratic presidents and declined by 6 cents per year under Republican presidents; that's a 3% difference in average income growth for minimum wage workers, with ramifications for many more workers higher up the wage scale. So, while I don't pretend to understand all the ways in which presidents' policy choices shape the income distribution, I see little reason to doubt that the effects are real and substantial.

When it comes to addressing such arguments more generally, the most famous commentator is Jon Elster. In his classic article [“Marxism, Functionalism, and Game Theory”](#), he insists:

Without a firm knowledge about the mechanisms that operate at the individual level, the grand Marxist claims about macrostructures and long-term change are condemned to remain at the level of speculation.

(To be fair, Elster doesn't make this as a general argument, but his vehemence has led some of his followers to suggest that it is.)

To be clear, I think discovering mechanisms is important work. All I'm arguing is that it shouldn't be a necessity for believing in a theory. Instead, I believe it's an irrational side-effect of an emotional distaste for gaps in knowledge.

As evidence, let me note that such demands for mechanisms never go more than one level deep. Nobody has ever said, “Well, your theory that people are motivated by greed is all very nice, but I just can't believe it until you can explain how greed is manifested in the brain.” Neuroscience is obviously the microfoundation of psychology, but psychological theories are regularly accepted without neuroscientific microfoundations.

In general, it seems like such commentators support a double-standard. Theories with mechanisms should be judged by their fit with the evidence and predictive power. Theories without mechanisms should be judged by the evidence and predictive power and whether you can think of any plausible mechanisms. I don't see how this can be justified. There's no reason mechanism should be privileged in the assessment of knowledge; things are true or false, even if we don't know *why* they are true or false.

Indeed, it we typically only investigate the causes of phenomena once we're convinced that they exist. (Elster admits as much in *Explaining Social Behavior*, noting that establishing a phenomena's existence is the first step towards explaining it.) So let's stop making the mistake of not believing things are true because we don't know how they happen.

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May 14, 2008